

Complex environmental mixtures - toxicology in vitro

Šimečková P, Marvanová S, Kulich P, Králiková L, Neča J, Procházková J, Machala M. Screening of cellular stress responses induced by ambient aerosol ultrafine particle fraction PM0.5 in A549 cells. *Int J Mol Sci.* 2019, 20, 6310. doi: 10.3390/ijms20246310.

Pěničková K, Ciganek M, Neča J, Illés P, Dvořák Z, Vondráček J, Machala M. Modulation of endocrine nuclear receptor activities by polyaromatic compounds present in fractionated extracts of diesel exhaust particles. *Sci Total Environ.* 2019, 677, 626-636. doi: 10.1016/j.scitotenv.2019.04.390.

Marvanová S, Kulich P, Skoupý R, Hubatka F, Ciganek M, Bendl J, Hovorka J, Machala M. Size-segregated urban aerosol characterization by electron microscopy and dynamic light scattering and influence of sample preparation. *Atmospheric Environment* 2018, 178, 181-190.

Libalova H, Rössner P, Vrbova K, Brzicova T, Sikorova J, Vojtisek-Lom M, Beranek V, Klema J, Ciganek M, Neca J, Machala M, Topinka J. Transcriptional response to organic compounds from diverse gasoline and biogasoline fuel emissions in human lung cells. *Toxicol In Vitro.* 2018, 48, 329-341.

Rynning I, Neca J, Vrbova K, Libalova H, Rössner P Jr, Holme JA, Gützkow KB, Afanou AKJ, Arnoldussen YJ, Hrubá E, Skare Ø, Haugen A, Topinka J, Machala M, Mollerup S. In vitro transformation of human bronchial epithelial cells by diesel exhaust particles: gene expression profiling and early toxic responses. *Toxicol Sci.* 2018, 166, 51-64.

Líbalová H, Rössner P, Vrbová K, Brzicová T, Sikorová J, Vojtíšek-Lom M, Beránek V, Kléma J, Ciganek M, Neča J, Pěničková K, Machala M, Topinka J. Comparative analysis of toxic responses of organic extracts from diesel and selected alternative fuels engine emissions in human lung BEAS-2B cells. *Int J Mol Sci.* 2016, 17, 1833. doi: 10.3390/ijms17111833.

Rössner P, Strapáčová S, Štolcpartová J, Schmuczerová J, Milcová A, Neča J, Vlková V, Brzicová T, Machala M, Topinka J. Toxic effects of the major components of diesel exhaust in human alveolar basal epithelial cells (A549). *Int J Mol Sci.* 2016, 17, 1393. doi: 10.3390/ijms17091393.

Topinka J, Rössner P Jr, Milcová A, Schmuczerová J, Pěničková K, Rössnerová A, Ambrož A, Štolcpartová J, Bendl J, Hovorka J, Machala M. Day-to-day variability of toxic events induced by organic compounds bound to size segregated atmospheric aerosol. *Environ Pollut.* 2015, 202, 135-145.

Pálková L, Vondráček J, Trilecová L, Ciganek M, Pěnčíková K, Neča J, Milcová A, Topinka J, Machala M. The aryl hydrocarbon receptor-mediated and genotoxic effects of fractionated extract of standard reference diesel exhaust particle material in pulmonary, liver and prostate cells. *Toxicol In Vitro* 2015, 29;438-448.

Líbalová H, Krčková S, Uhlířová K, Kléma J, Ciganek M, Rössner P, Jr, Šrám RJ, Vondráček J, Machala M, Topinka J. Analysis of gene expression changes in A549 cells induced by organic compounds from respirable air particles. *Mutat Res.* 2014, 770, 94-105.

Líbalová H, Krčková S, Uhlířová K, Milcová A, Schmuczerová J, Ciganek M, Kléma J, Machala M, Šrám RJ, Topinka J. Genotoxicity but not the AhR-mediated activity of PAHs is inhibited by other components of complex mixtures of ambient air pollutants. *Toxicol Lett.* 2014, 225, 350-357.

Lübcke-von Varel U, Bataineh M, Lohrmann S, Löffler I, Schulze T, Flückiger-Isler S, Neča J, Machala M, Brack W. Identification and quantitative confirmation of dinitropyrenes and 3-nitrobenzanthrone as major mutagens in contaminated sediments. *Environ Int.* 2012, 44, 31-39.

Líbalová H, Uhlířová K, Kléma J, Machala M, Šrám RJ, Ciganek M, Topinka J. Global gene expression changes in human embryonic lung fibroblasts induced by organic extracts from respirable air particles. *Part Fibre Toxicol.* 2012 Jan 12;9:1. doi: 10.1186/1743-8977-9-1.

Andrysík Z, Vondráček J, Marvanová S, Ciganek M, Neča J, Pěnčíková K, Mahadevan B, Topinka J, Baird WM, Kozubík A, Machala M. Activation of the aryl hydrocarbon receptor is the major toxic mode of action of an organic extract of a reference urban dust particulate matter mixture: the role of polycyclic aromatic hydrocarbons. *Mutat Res.* 2011, 714, 53-62.

Lübcke-von Varel U, Machala M, Ciganek M, Neča J, Pěnčíková K, Pálková L, Vondráček J, Löffler I, Streck G, Reifferscheid G, Flückiger-Isler S, Weiss JM, Lamoree M, Brack W. Polar compounds dominate in vitro effects of sediment extracts. *Environ Sci Technol.* 2011, 45, 2384-2390.

Brack W, Schmitt-Jansen M, Machala M, Brix R, Barceló D, Schymanski E, Streck G, Schulze T. How to confirm identified toxicants in effect-directed analysis. *Anal Bioanal Chem.* 2008, 390, 1959-1973. doi: 10.1007/s00216-007-1808-8.

Ciganek M, Neča J, Adamec V, Janošek J, Machala M. A combined chemical and bioassay analysis of traffic-emitted polycyclic aromatic hydrocarbons. *Sci Total Environ.* 2004, 334-335, 141-148. doi: 10.1016/j.scitotenv.2004.04.034.

Giesy JP, Hilscherová K, Jones PD, Kannan K, Machala M. Cell bioassays for detection of aryl hydrocarbon (AhR) and estrogen receptor (ER) mediated activity in environmental samples. *Mar Pollut Bull.* 2002;45(1-12):3-16. doi: 10.1016/s0025-326x(02)00097-8.

Hilscherová K, Kannan K, Kang YS, Holoubek I, Machala M, Masunaga S, Nakanishi J, Giesy JP. Characterization of dioxin-like activity of sediments from a Czech river basin. *Environ Toxicol Chem.* 2001, 20, 2768-2777.

Vondráček J, Machala M, Minksová K, Bláha L, Murk AJ, Kozubík A, Hofmanová J, Hilscherová K, Ulrich R, Ciganek M, Neča J, Svrčková D, Holoubek I. Monitoring river sediments contaminated predominantly with polyaromatic hydrocarbons by chemical and in vitro bioassay techniques. *Environ Toxicol Chem.* 2001, 20, 1499-1506.

